



## Climate change and ecosystem disruption: The health impacts of the North American Rocky Mountain pine beetle infestation

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### Abstract:

In the United States and Canada, pine forest ecosystems are being dramatically affected by an unprecedented pine beetle infestation attributed to climate change. Both decreased frequency of extremely cold days and warmer winter temperature averages have led to an enphytotic devastating millions of acres of pine forest. The associated ecosystem disruption has the potential to cause significant health impacts from a range of exposures, including increased runoff and water turbidity, forest fires, and loss of ecosystem services. We review direct and indirect health impacts and possible prevention strategies. The pine beetle infestation highlights the need for public health to adopt an ecological, systems-oriented view to anticipate the full range of potential health impacts from climate change and facilitate effective planned adaptation.

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### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Temperature

**Extreme Weather Event:** Flooding, Wildfires

**Food/Water Quality:** Chemical, Other Water Quality Issue

**Water Quality (other):** Turbidity

**Temperature:** Fluctuations

#### Geographic Feature:

resource focuses on specific type of geography

Other Geographical Feature

**Other Geographical Feature :** Forest

#### Geographic Location:

resource focuses on specific location

Non-United States, United States

**Non-United States:** Non-U.S. North America

**Health Impact:** 

specification of health effect or disease related to climate change exposure

Cancer, Respiratory Effect

**Respiratory Effect:** Asthma

**Intervention:** 

strategy to prepare for or reduce the impact of climate change on health

A focus of content

**Mitigation/Adaptation:** 

mitigation or adaptation strategy is a focus of resource

Adaptation

**Resource Type:** 

format or standard characteristic of resource

Review

**Resilience:** 

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

**Timescale:** 

time period studied

Time Scale Unspecified

**Vulnerability/Impact Assessment:** 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content